



Personal Computer

OPERATING INSTRUCTIONS

Model No. **CF-45 Series**

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TOUGHBOOK

95 98 NT

[Additional Manual]

Reference Manual

This manual can be accessed on your computer. Refer to page 19 on how to access the Reference Manual.

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Getting Started

Operation

Troubleshooting

Appendix

Customer's Record

Model No. ¹	Dealer's Name
Serial No.	
or	
Code No.	Dealer's Address
Product Key No. ²	
Date of Purchase	

*¹ For the Model No., insert the 12 digit number (for example, CF-45KJ6GJEM) located on the bottom of the computer.

*² For Product Key Number, write down the number, which is written on the "Certificate of Authenticity" (in the Windows book that comes with this computer) or on the bottom of the computer.

Introduction

Thank you for purchasing the Panasonic computer. Read the operating instructions thoroughly for proper operation of your new computer.

Illustrations in this Manual

NOTE:	NOTE provides a useful fact or helpful information.
CAUTION:	CAUTION indicates a condition that may result in minor or moderate injury.
WARNING:	WARNING indicates a hazard that may result in moderate or serious injury.
[Start]-[Shut Down]:	This illustration means to click [Start], then to click [Shut Down]. (For some applications, you may need to double-click.)
Enter :	This illustration means to press the [Enter] key.
Fn + F5 :	This illustration means to press and hold the [Fn] key, then press the [F5] key.
Windows 95 :	Information for Microsoft Windows® 95 Operating System users.
Windows 98 :	Information for Microsoft Windows® 98 Operating System users.
Windows NT :	Information for Microsoft Windows NT® Workstation Version 4.0 users.
 :	Where to go for referred information.
 :	This illustration means to refer to the Reference Manual, which is available on your computer. Refer to page 19 on how to access this manual.

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For U.S.A.

Federal Communications Commission Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Panasonic Service Center or an experienced radio/TV technician for help.

Warning

To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Responsible Party: Matsushita Electric Corporation of America

One Panasonic Way
Secaucus, NJ 07094
Tel No: 1-800-LAPTOP-5
(1-800-527-8675)

Lithium Battery

Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored in it.

The battery should only be exchanged by service personnel.

Warning! Risk of explosion from incorrect installation or misapplication!

Warnung bezüglich der Lithiumbatterie (Sicherungsbatterie)

Lithiumbatterie!

Dieser Computer enthält eine Lithiumbatterie zur Sicherung von Datum und Uhrzeit der eingebauten Uhr sowie anderer Systemdaten im Speicher bei einer Unterbrechung der Hauptstromversorgung. Diese Sicherungsbatterie darf nur von Kundendienstpersonal ausgewechselt werden.

Warnung! Bei falschem Gebrauch besteht Explosionsgefahr! Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

Avertissement concernant la pile au lithium (pile de sauvegarde)

Pile au lithium!

Le micro-ordinateur renferme une pile au lithium qui permet de sauvegarder certaines données comme la date et l'heure notamment. Elle ne devra être remplacée que par un technicien qualifié.

Avertissement! Risque d'explosion en cas de non respect de cette mise en garde!

CD-ROM Drive Caution

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL

WARNUNG!

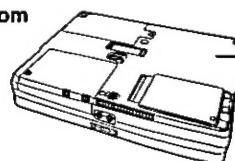
DIESES PRODUKT ERZEUGT LASERSTAHUNG.
DURCHFÜHRUNG ANDERER VORGÄNGE ALS DER HIER ANGEgebenEN KANN ZU GEFÄHRLICHER STRAHLUNG FÜHREN.

REPARATUREN DÜRFEN NUR VON QUALIFIZIERTEM FACHPERSONAL DURCHGEFÜHRT WERDEN.

AVERTISSEMENT!

CET APPAREIL UTILISE UN LASER.
L'UTILISATION DE COMMANDES OU DE RÉGLAGES OU L'EXÉCUTION DE PROCÉDURES AUTRES QUE CELLES SPÉCIFIÉES ICI PEUVENT PROVOQUER UNE EXPOSITION À DES RADIATIONS DANGEREUSES.
NE PAS OUVRIR LES COUVERCLES NI ESSAYER DE RÉPARER SOI-MÊME.
CONFIER TOUT TRAVAIL D'ENTRETIEN À UN PERSONNEL QUALIFIÉ.

Bottom



CLASS 1 LASER PRODUCT
LASER KLASSE1

Precautions

● Usage



Avoid Extreme Heat and Cold

Do not store or use the computer in locations exposed to heat, direct sunlight, or extreme cold. Avoid moving the computer between locations with large temperature differences.

Operation: 5 °C to 35 °C {41 °F to 95 °F}
Storage: -20 °C to 60 °C {-4 °F to 140 °F}



Avoid Direct Sunlight on the LCD Panel

The LCD panel should not be exposed to direct sunlight or ultraviolet light.



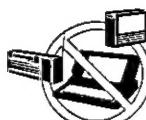
Avoid Humidity, Liquids and Dust

Do not store or use the computer in locations exposed to high humidity, liquids (including rain) or dust.



Prevent Shock

Avoid subjecting the computer to severe vibrations or impact. Do not place the computer inside a car trunk.



Avoid Radio Frequency Interference

Do not place the computer near a television or radio receiver.



Avoiding low-temperature burns

Avoid more than casual contact with any heat producing area of the notebook computer, power adapter, and any option or accessory you use with it. Even low heat, if warmer than body temperature, can cause a burn, if the skin is exposed to the heat source for a long enough period of time.

● Handling



Avoid Magnetic Fields

Keep the computer away from magnets.



Avoid Stacking

Do not place heavy objects on top of the computer.



Keep Small Objects Away

Do not insert paper clips or other small objects into the computer.



Do Not Disassemble the Computer

Do not attempt to disassemble your computer.



Avoid Excessive Force on the Display

Do not apply excessive downward force on the display when it is completely opened, especially when plugs and/or cables are connected to the rear of the computer.

● Peripherals

Incorrectly using peripheral devices may lead to a decrease in performance, an increase in temperature and/or damage your computer. For more information on peripheral devices, refer to the Reference Manual.

● Cables

Use of an interface cable longer than 3 m {9.84 feet} is not recommended.

Battery Pack Usage

- Care should be exercised with regard to the following in order to avoid the possibility of liquid leakage, overheating, or bursting.



Avoid Heat

Do not throw the battery pack into a fire or expose it to excessive heat.



Keep Articles Away

Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.



Do Not Disassemble

Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.



Do Not Short

Do not short the positive (+) and negative (-) contacts.



Avoid Extreme Heat, Cold and Direct Sunlight

Do not charge, use or leave the battery pack for extended periods where it will be exposed to direct sunlight, in a hot place (in an automobile on a sunny day, for example), or in a cold place.



Do Not Use With Other Computer

The battery pack is rechargeable and was intended for the specified computer or charger. Do not use it with a computer other than the one for which it was designed.



Do Not Put into a Microwave

Do not put the battery into a microwave oven or a pressurized chamber.



Discontinue Use

Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the unit or charger and discontinue use.

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery to water, or allow it to become wet.
- If the battery pack will not be used for a long period of time (a month or more), charge the battery pack until the remaining battery level becomes 30% to 50% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adapter is connected to the computer, charging begins automatically.
- Should the battery leak and the fluid get into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.

NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence outside of the allowable temperature range (0 °C to 35 °C (32°F to 95 °F)). Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C (48 °F) or less.)
- If the temperature is low, the operating time is shortened. Therefore, use the computer within the allowable temperature range.
- Although the battery has not begun to run out, the battery indicator may light up red or emit a beep. This indicates a significant rise in the temperature of the battery pack. This is typically caused by the fact that the battery pack has been delivering a high level of power because the computer has been used with the display at the brightest setting and with the power-saving function off.

To protect the battery pack from increases in temperature, the brightness of the display automatically decreases, allowing the temperature of the battery to drop. In this condition, if the computer is left as is, it will automatically go off after about three minutes have elapsed. Within that period, therefore, be sure to connect the AC adapter or shut the computer OFF after saving any open data (if necessary).

Read Me First

Saving Data on the Hard Disk

- **Do not expose your computer to shock.**
Use care when handling your computer, shock may damage your hard disk or make your software applications and data unusable.
- **Do not power down your computer while software applications are running or HDD indicator (■) is on.**
Properly shut Windows down to avoid problems ([Start]-[Shut Down]).
- **Save all valuable data to floppy disks.**
Backing up data to floppy disks will limit damage should trouble occur to your computer or should you inadvertently change or erase data.
- **Use the security function for all important data.** (☞ Reference Manual "Security Measures")

Saving Data on Floppy Disks

- **Do not power down your computer or press the floppy disk drive eject button while the FDD indicator (■) is on.**
Doing so may damage the data on the floppy disk and render the disk useless.
- **Use care when handling floppy disks.**
To protect the data on your floppy disks or to prevent a floppy disk from becoming stuck in your computer, avoid the following:
 - Sliding the shutter on the floppy disk manually.
 - Exposing the disk to a magnetic field.
 - Storing the disk in locations prone to high temperatures, low pitched noise, dampness, or dust.
 - Applying more than one label on the disk.
- **Confirm the contents of a floppy disk before formatting it.**
Confirm that no important data is on the disk, because all data on the disk will be erased.
- **Use the write-protect tab.**
This is a must for preserving important data. This prevents your data from being erased or overwritten.



Write Enable



Write Disable

Computer Viruses

- **Users are advised to purchase the latest versions of virus protection software and use them regularly.**
We recommend you run the software:
 - When booting your computer.
 - After receiving data.

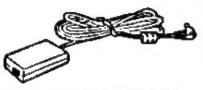
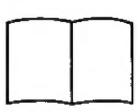
We recommend that you check data received on floppy disks or from external sources, such as data downloaded from the Internet, e-mail, etc. (For compressed files, uncompress them before running a check).

First-time Operation

Read the steps below to help you learn what parts are included, and to gain an understanding of some basic computer-related operations.

1 Confirm the inclusion of all parts

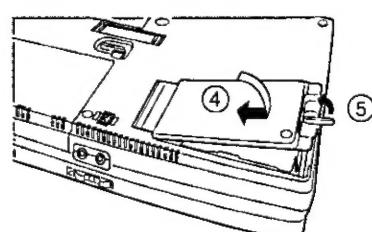
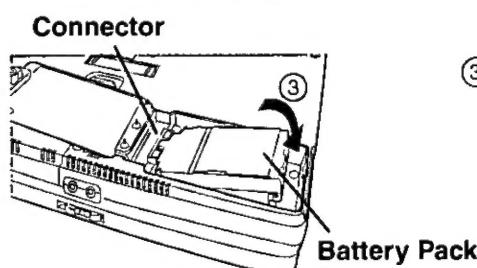
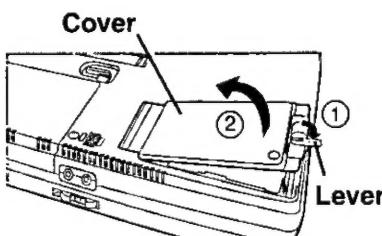
Make sure the parts shown in the figure have been supplied. If any of these items are missing or is not working properly, contact Panasonic Technical Support.

AC Adapter 1	AC Cord 1	Battery Pack .. 1	Operating Instructions 1
 Model No: CF-AA1639		 Model No: CF-VZS251AW	
Product Recovery CD-ROM .. 1		Windows® Book 1	
			

2 Write down the Product Key Number

CAUTION

The Product Key Number is necessary during the Setup procedure for Windows (☞ page 9,10,11), so be sure to write down the number, which is written on the "Certificate of Authenticity" (in the Windows book that comes with this computer) or on the bottom of the computer, in the column "Customer's Record" (☞ page 2).



3 Connect the battery pack

- ① Turn the computer over, unlock the lever.
- ② Open the cover.

- ③ Connect the battery to the connector part, and return it to its proper location.

CAUTION

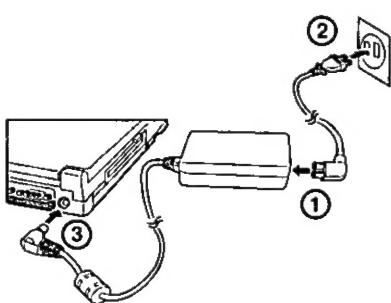
Be sure the battery pack is properly connected to the connector.

- ④ Put the cover back by using the arrow as a guide.
- ⑤ Lock the lever into place.

CAUTION

Confirm that the lever lock is correctly in place. Should you decide to carry your computer without the lever lock in place, the cover may open causing the battery pack to fall out.

First-time Operation



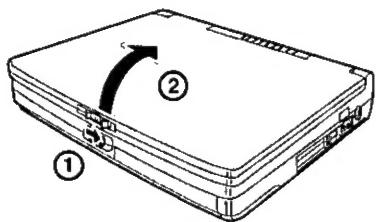
4 Connect your computer to a power outlet

CAUTION

Be sure the AC adapter is connected until completing Step **10** on page 12.

Handling the AC adapter

- Do not twist or pull the AC power cord forcefully. Doing so may damage the connections.
- Use only the specified AC adapter with your computer. Using an AC adapter other than the one supplied might damage the battery and/or the computer.
- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet well.
- Problems such as sudden voltage drops/surges may arise during periods of thunder and lightning. Since this could adversely affect your computer, an uninterruptible power source (UPS) is highly recommended unless the battery pack is installed.



5 Read the LIMITED USE LICENSE AGREEMENT (☞page 27)

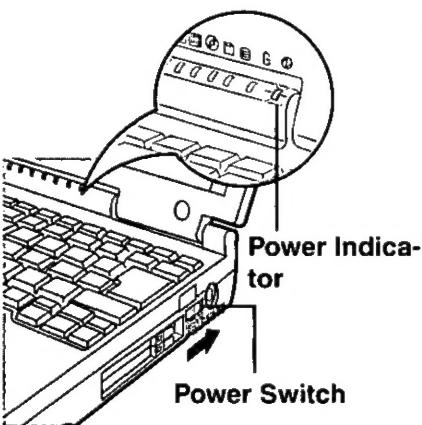
To open the display, slide the latch located at the front and lift open the display. Before removing the seal covering the power switch, read the LIMITED USE LICENSE AGREEMENT.

6 Turn your computer on

Slide the power switch toward the rear of the computer and hold it for approximately one second until the power indicator turns on before releasing it.

CAUTION

- Do not slide the power switch and hold it for more than four seconds.
- Do not slide the power switch repeatedly.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.



NOTE

Windows 95-NT

The power saving function is factory set, so if there is no input from a key, the trackball, or the external mouse for two minutes, the LCD is powered off (ECO mode).

The LCD will resume operation when the trackball or the external mouse is used or a key is pressed.

The computer may enter the ECO mode while Windows is setting up or even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, for resuming from the ECO mode, do not press **Enter** and **Space** which may trigger a selection, instead, press a key unrelated to the direct triggering of a selection, like the **Ctrl** key.

Windows 98

The power saving mode ([Power Scheme] in [Control Panel] - [Power Management]) is factory set, so if there is no input from a key, the trackball, or an external mouse (when one is connected) for a certain interval of time, the power to the LCD is cut, and the power to the hard disk is shut off. In addition, when the computer is left alone, it automatically enters the suspend* mode (☞ Reference Manual "Suspend/Hibernation Functions").

The LCD will resume operation when the trackball is used or a key, or an external mouse is pressed.

The power to the LCD may be turned off while Windows is setting up or even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, do not press the **Enter** and **Space** to attempt to resume from this condition as doing so may trigger a selection, but instead, press a key unrelated to the direct triggering of a selection, like the **Ctrl** key.

*With Windows 98, "Suspend" is called "Standby".

7 Setup Windows

Moving the cursor (↓) or clicking buttons can be performed with the trackball (☞page 16).

Windows 95

- ① Select settings for your region, then press [Next].
- ② Select your keyboard layout, then press [Next].
(for U.S.A.: United States 101)
- ③ Enter your name and your company's name, then press [Next].
(It is possible to omit the company name item.)
The License Agreement will be displayed.
- ④ After reading the agreement, select [I accept the agreement] or [I don't accept the agreement], then press [Next].

NOTE

If [I accept the agreement] is selected, the [Certificate of Authenticity] will appear.
If [I don't accept the agreement] is selected, the Windows setup will be aborted.

- ⑤ Input the Product Key Number written down in the column "Customer's Record" (☞ page 2,7) then press [Next].
- ⑥ Press [Finish].
- ⑦ Input the correct time, date and time zone and press [Close].
You can also complete these settings at a later time.
- ⑧ Press [Next] to complete the printer setup or [Cancel] to skip.

Windows 98

- ① Select settings for your region and your keyboard layout, then press [Next].
(for U.S.A.: United States 101)
- ② Enter your first name and last name, then press [Next].
- ③ After reading the agreement, select [I accept this agreement] or [I do not accept the agreement], then press [Next].

NOTE

If [I accept this agreement] is selected, the [Certificate of Authenticity] will appear.
If [I do not accept the agreement] is selected, the Windows setup will be aborted.

- ④ Input the Product Key Number written down in the column "Customer's Record" (☞ page 2,7) then press [Next].
- ⑤ Press [Finish].
- ⑥ Input the correct date, time and time zone and press [Close].
You can also complete these settings at a later time.

First-time Operation

Windows NT

① The Software License Agreement will be displayed. After reading the agreement, select [I Agree].

NOTE

If [I Agree] is selected, the [Certificate of Authenticity] will appear. If [I Disagree] is selected, the Windows setup will be aborted.

② Select [Next].

③ Input your name and organization, then select [Next].
(It is possible to omit the organization item.)

④ Input the Product Key Number written down in the column "Customer's Record" (page 2,7) then press [Next].

To move the cursor to a particular item, press **←** or click the desired box.

⑤ Input your computer name and select [Next].

⑥ Input an Administrator password and select [Next].

CAUTION

Remember this password! If the password is forgotten, Windows NT cannot be operated.

⑦ Select [Next].

⑧ Select [Do not connect this computer to a network at this time], then select [Next].

(Settings can be made for a network even after Windows starts up. In this case, be sure to read [When Adding New Software or Hardware Components] in the Reference Manual [Technical Information].)

● When establishing settings for a network:

The settings will vary for different network environments depending on the network system being used. For more details, ask your system administrator or the person in charge of the network. Follow the on-screen instructions.

NOTE

It takes several minutes for the necessary files to be copied. If the computer enters the ECO mode, the power to the LCD is automatically turned off. In this case, press a key unrelated to the direct triggering of a selection, like **Ctrl**.

⑨ Select [Restart Computer].

⑩ Select "Windows NT Workstation Version 4.00" and press **Enter**.

⑪ Following the display, press **Ctrl** + **Alt** + **Del**.

⑫ Input the password set in step ⑥ and select [OK], then select [Close] at the [Welcome] display.

As the computer starts up, it will be necessary to input the password set in step ⑥.

⑬ Follow the on-screen instructions and install DS-XG Driver for WinNT.

(At the [YAMAHA DS-XG Audio Driver], select [OK]. When the installation completes, select [No, I will restart my computer later], select [OK].)

⑭ Follow the on-screen instructions and install Phoenix APM 2.0 for Windows NT.
When the installation completes, select [Don't Restart Now].

⑮ Follow the display and install Phoenix Card Executive™ for Windows NT.
When the installation complete, select [Restart Now].

⑯ Select "Windows NT Workstation Version 4.00" and press **Enter**.

⑯ The [Begin Logon] display will appear. Perform the operation in step⑪ and ⑫.

⑰ Select [Next] at the [Card Executive 2.0 for NT Diagnostics].

⑱ Select [Next], then select [Finish].
Windows will restart.

⑲ Select "Windows NT Workstation Version 4.00" and press **Enter**.

⑳ The [Begin Logon] display will appear. Perform the operation in step⑪ and ⑫.

㉑ Double-click the [Internet Explorer] icon to install Internet Explorer.
Follow the on-screen instructions.
At the [Installation Option], by clicking , select [Full Installation], then select [Next].
At the [Confirm File Replace], press [No].
Windows will restart.

㉒ Select "Windows NT Workstation Version 4.00" and press **Enter**.

㉓ The [Begin Logon] display will appear. Perform the operation in step⑪ and ⑫.

㉔ In [Start] - [Run], input [c:\util\msupdate\EN-X86-Q234680], then select [OK].
Follow the on-screen instructions. (EN-X86-Q234680.EXE is a file for IE4.01 SP2 Y2K.)
If the display asks you to restart Windows, select [Yes].

㉕ Set the correct settings for all items in [Control Panel]-[Regional Settings] and [Date/Time] etc.

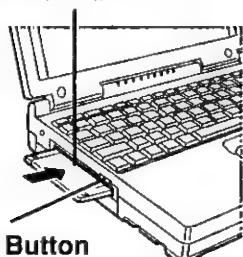
NOTE

The use of the Active Desktop may cause problems. In such cases, disable the Active Desktop with the following procedure.

- ① In [Start] - [Settings] - [Control Panel] - [Display], select [Web].
- ② Delete the check mark for [View my Active Desktop as a web page] and then press [OK].
- ③ Press [No].

8 Create floppy disks

Label-side up
Label on the top surface,
and inserting the shut-
ter-side headfirst.



Eject Button

Prepare 2HD floppy disks and make sure they are not in the write-protected state, then select [Start] - [Programs] - [Panasonic] - [Create BACKUP DISK] and follow the on-screen instructions. Place a label identifying the contents on each disk.

● Name of created backup disk

FIRSTAID FD

(When the display for creating the UPDATE FD is shown, create the disk by following the on-screen instructions.)

CAUTION

- Store the floppy disks in a safe place. They will enable you to return your computer to close to the condition at the time of purchase should any problems occur.
When creating floppy disks, do not run any other application program.
- When creating floppy disks and the message [Insufficient files to copy] is displayed, click [OK] and then contact Panasonic Technical Support.
- While the floppy disk drive indicator is on, do not remove the floppy disk, power down your computer or use the suspend or hibernation function (Reference Manual "Suspend/Hibernation Functions").



First-time Operation

9 Install Acrobat® Reader 4.0

Windows NT

NOTE

Acrobat® Reader is necessary to view the Reference Manual, which explains detailed operational procedures concerning your computer.

- ① In [Start] - [Run], input [c:\util\reader\Ar40eng.exe], then press [OK].
- ② Press [Next] and set up the Acrobat® Reader 4.0.
- ③ After reading the "Software License Agreement", select [Accept] if you agree to the terms.
- ④ Press [Next].
- ⑤ At the [Setup Complete], Select [Yes, I want to restart my computer now], then select [Finish].

10 Partition the Hard Disk

Windows NT

The hard disk includes an NT file system (NTFS) partition of 4GB. The remaining free hard disk space can be used when necessary by creating more partitions (in [Start] - [Programs] - [Administrative Tools (Common)] - [Disk Administrator]).

CAUTION

The sector showing [Unknown] is an important sector and must not be deleted.

This concludes the first-time use operation guidelines.

NOTE

When using the files in the following folders available on the retail version of the Windows CD-ROM, it is necessary to run a separate file decompression program.

Windows 95 \admin
 \datalink
 \drivers
 \help
 \other

Windows 98 \tsclient
 \tools

To uncompress the file, it is necessary to have approximately 150 MB (**Windows 95**) /80 MB (**Windows 98**) of free disk space available on the hard disk.

To use the CD-ROM drive in MS-DOS mode, perform the operation below after modifying config.sys and autoexec.bat. (☞page 18)

File decompression method:

① Turn your computer on.

Windows 95

② When [Starting Windows 95] is displayed, press **F8**.

Windows 98

② When [Press <F2> to enter SETUP] is displayed, immediately press **Ctrl** (until the menu is displayed).



③ Select [Command prompt only].

④ Insert the Product Recovery CD-ROM.

⑤ At the prompt, input the following:

L:\en\add\file **Enter**

Follow the message on the screen.

(If the computer enters the ECO mode while copying, press **Ctrl**.)

Windows 95

After this program is executed, the contents of the above folders will be decompressed to the c:\util\win95add folder.

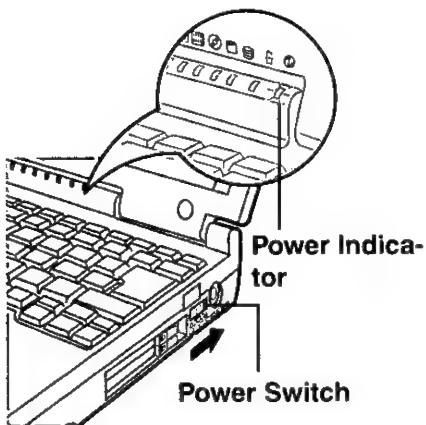
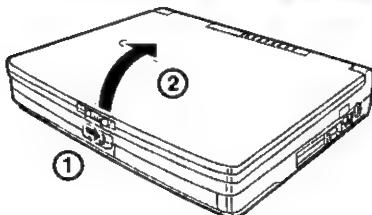
Windows 98

After this program is executed, the contents of the above folders will be decompressed to the c:\util\win98add folder.



Starting Up/Shutting Down

Starting Up



1 Open the display

Slide the latch as shown and lift open the display.

2 Turn your computer on

Slide the power switch toward the rear of the computer and hold it for approximately one second until the power indicator turns on before releasing it.

CAUTION

- The computer will not power on when the LCD panel is closed.
- Do not slide the power switch and hold it for more than four seconds.
- Do not slide the power switch repeatedly.
- After confirming that the power indicator has turned on, avoid the following until Windows has completed loading.
 - Touching the power switch.
 - Performing any keyboard or trackball (or external mouse) operations.
 - Closing the display.

If the display is closed while Windows is starting up, it is possible that color, etc., will not be displayed properly. Run the [MS-DOS Prompt] ([Start] - [Programs] - [MS-DOS Prompt]), and use full screen display mode by pressing **Enter**. After returning from the full screen mode (**Alt** + **Enter** again), the display will be shown correctly.

- Once the computer is powered off, you must wait at least ten seconds before powering it on again.
- When the CPU temperature rises, the computer may not power on to prevent the CPU from overheating. Should this happen, allow the computer to cool down then switch the power on again.

If the computer still does not power on, contact Panasonic Technical Support.

3 Select your operating system **Windows NT**

Select "Windows NT Workstation Version 4.00" and press **Enter**.

4 Logon **Windows NT**

Wait for 10 seconds after confirming that the HDD access has been completed, then press **Ctrl** + **Alt** + **Del**.

5 Input your password **Windows NT**

Input the user name and password, then press [OK]. If [Cancel] is clicked, the computer will return to the initial [Begin Logon] display. Until the correct user name and password are entered, the computer will not operate.

6 Select your application

You are able to start working on your computer.

● If security indicator (key) is displayed,

you must first enter your User Password (☞ Reference Manual "Security Measures")

Upon entering your User
Password and pressing

Enter

If the correct password is input,



Over three incorrect attempts.

* If after three attempts the correct password is not input, or if no password is entered for about a minute, the computer returns to the condition just before the attempt was made to start up the computer.

● When an application or file that was previously displayed appears on your screen,

the suspend or hibernation mode (☞ Reference Manual "Suspend / Hibernation Functions") has been set.

NOTE

Windows 95-NT

The power saving function is factory set, so if there is no input from a key, the trackball, or the external mouse for two minutes, the LCD is powered off (ECO mode).

The LCD will resume operation when the trackball or the external mouse is used or a key is pressed.

The computer may enter the ECO mode while Windows is setting up or even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, for resuming from the ECO mode, do not press **Enter** and **Space** which may trigger a selection, instead, press a key unrelated to the direct triggering of a selection, like the **Ctrl** key.

Windows 98

The power saving mode ([Power Scheme] in [Control Panel] - [Power Management]) is factory set, so if there is no input from a key, the trackball, or an external mouse (when one is connected) for a certain interval of time, the power to the LCD is cut, and the power to the hard disk is shut off. In addition, when the computer is left alone, it automatically enters the suspend* mode (☞ Reference Manual "Suspend/Hibernation Functions").

The LCD will resume operation when the trackball is used or a key, or an external mouse is pressed.

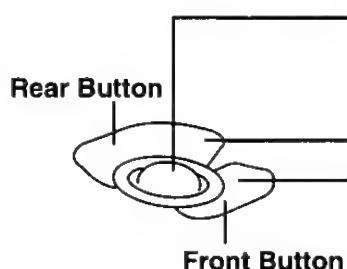
The power to the LCD may be turned off while Windows is setting up or even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, do not press the **Enter** and **Space** to attempt to resume from this condition as doing so may trigger a selection, but instead, press a key unrelated to the direct triggering of a selection, like the **Ctrl** key.

*With Windows 98, "Suspend" is called "Standby".

Starting Up/Shutting Down

Using the Trackball

Use the trackball to move the cursor on the display and perform normal computer operations.



Trackball

If the trackball is moved forward/backward and left/right, the cursor will move in the corresponding directions.

Click Buttons

Clicking this button displays a pop-up menu corresponding to the area of the display the cursor is at.

Clicking the front button is equivalent to clicking the mouse right button. Clicking the rear button is equivalent to clicking the mouse left button.

● Basic Operations

Clicking: Simply tap and release a finger



on the front or rear button.

Double-clicking: Simply tap and release a finger



two times in succession on the front or rear button.

Dragging: While holding down the rear



button or front button, spinning the trackball with your fingers.

NOTE

- The action of the two buttons vary according to the software application being used. Normally the rear button is used to perform actions.
- To change the settings for the front and rear buttons of the trackball, and the left and right buttons of the mouse, select [Start] - [Settings] - [Control Panel] - [Mouse].

Shutting Down (power off your computer)

This procedure is shutting down without using the suspend or hibernation function.

( Reference Manual "Suspend/Hibernation Functions")

1 Display the shut down screen

After saving important data and closing each application, select [Shut Down] from the [Start] menu.

NOTE

From the keyboard,

You may choose to press down on  , then select the menu with  or .

2 Confirm shut down

Select [Shut down].

Your computer will power off automatically.

(In the OFF state, if you are not recharging your battery pack or if the pack is fully charged, your computer consumes approximately 1.5 W.)

● Restarting your computer (without shutting down)

Select [OK] after selecting [Restart].

NOTE

To quickly resume computer operation after shutting down,

The suspend* or hibernation function is available. ( Reference Manual "Suspend/Hibernation Functions")

*With Windows 98, "Suspend" is called "Stand by".

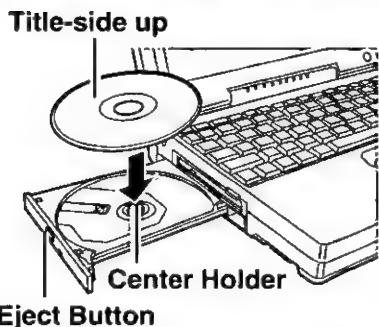
Windows NT

For the computer to automatically shut down after [Shutdown] is selected, Phoenix APM 2.0 for Windows NT® has to be installed. When  and  are displayed on the taskbar, this indicates that the program is installed.



Starting Up/Shutting Down

Using the CD-ROM Drive



Installing the CD

- 1 Turn your computer on**
- 2 Press the eject button**
- 3 Secure the CD on the center holder**
- 4 Close the tray**

CAUTION

- Do not place items other than CDs on the tray.
- Do not leave the tray in the open position. **Also, do not touch the lens area with your fingers.**
- When the tray is opened, applying too much force to it could cause it to break.
- Do not open the CD-ROM drive or move the computer while an application is in the process of accessing the CD-ROM drive. Doing so could cause it to malfunction.
- Cleaning the CD-ROM drive using a CD lens cleaner (except the liquid type cleaner) is recommended if it malfunctions.
- Do not use the CD-ROM drive in a location where there is a lot of oily smoke or tobacco smoke. Doing so could shorten the service life of the lens.
- Never insert foreign objects such as paper clips into the slot in the CD-ROM drive.
- Do not use CDs that have become deformed (warped, not completely round, etc.).

Using the CD-ROM pack in the MS-DOS mode

Windows 95-98

- 1** Click the [Start] button then select [Shut Down].
- 2** Select [Restart in MS-DOS mode] and click [OK].
- 3** Open the "CONFIG.SYS" file for editing by issuing the following commands:
cd \ **Enter**
edit config.sys **Enter**
- 4** Move the cursor to the line containing "ATAPICD.SYS" (Windows 95) or "OAKCDROM.SYS" (Windows 98), and delete the characters "rem" at the beginning of the line. (Deleting "rem" causes the item to become valid.)
Windows 95 DEVICEHIGH=C:\WINDOWS\COMMAND\ATAPICD.SYS /D:MSCD000
Windows 98 DEVICEHIGH=C:\WINDOWS\COMMAND\OAKCDROM.SYS /D:MSCD000
(If this line is missing, add it.)
- 5** Press **Alt** + **F**, then **S** to save the file. Then press **Alt** + **F**, then **X** to exit the Edit program.
- 6** Follow the same steps to edit the "AUTOEXEC.BAT" file.
edit autoexec.bat **Enter**
- 7** Move the cursor to the line containing "MSCDEX.EXE" and delete the characters "rem" at the beginning of the line. (Deleting "rem" causes the item to become valid.)
LOADHIGH C:\WINDOWS\COMMAND\MSCDEX.EXE /D:MSCD000 /L:L
(If this line is missing, add it.)
- 8** Press **Alt** + **F**, then **S** to save the file. Then press **Alt** + **F**, then **X** to exit the Edit program.
- 9** Restart the computer.

About the "Reference Manual"

The Reference Manual can be accessed on your computer. When a printer is connected, it is also possible to print.

This manual explains functions for you to make greater use of the computer, such as how to add peripheral devices, how the Setup Utility works and other useful information.

CAUTION

Windows NT

When you read the "Reference Manual", it is necessary to install the Acrobat Reader.
([page 12](#))

Run-the-Reference-Manual

1 Turn your computer on

2 Select [Reference Manual] in [Start] - [Programs] - [Panasonic] - [On-Line Manuals]

When launching the Reference Manual for the first time, the License Agreement will be displayed. After reading the agreement, select [Accept] to access the Reference Manual.

NOTE

When launching the Reference Manual for the first time, an error message may appear if the Reference Manual is launched using a method that differs from the above explanation. If an error message appears, press [OK].

Display the page

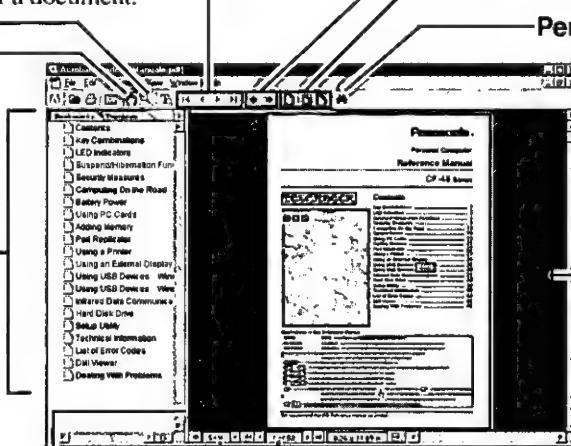
Go forward or backward a page, or to the beginning or end of a document.

Zoom-in

Hand tool
To move around the current page.

Table of Content (Items)

By clicking an item, the corresponding page will be displayed at 100%.



Movable splitter bar

This bar can be dragged, for example, to the right to enlarge the display of the Table of Contents.

Page indicator

A desired page can be displayed by inputting the page number after clicking here.

Change the display size

You can choose to magnify/de-magnify the display.

CAUTION

- Illustrations may be difficult to view depending on the magnification. If this is the case, we recommend that the display be magnified.
- When the taskbar is hidden at the bottom portion of Acrobat® Reader, set the maximum display window size.
- If a printer is connected, we recommend printing the Reference Manual. The illustrations and display samples may not print with a high quality.

Handling and Maintenance

Usage Environment

● Environment

- Place the computer on a flat stable surface.
- In use: Temperature: 5 °C to 35 °C {41 °F to 95 °F}
Humidity: 30 % to 80 % RH (No condensation)
- Not in use: Temperature: -20 °C to 60 °C {-4 °F to 140 °F}
Humidity: 30 % to 90 % RH (No condensation)

● Places not to use your computer

- Such areas may result in damage to the computer.

Areas exposed to direct sunlight

Areas with electronic equipment

These areas may interfere with your display or cause your computer to produce strange sounds.



Areas with extremely high/low temperatures

- Do not leave things near the computer that are sensitive to heat. During operation, the computer may become warm.

Handling

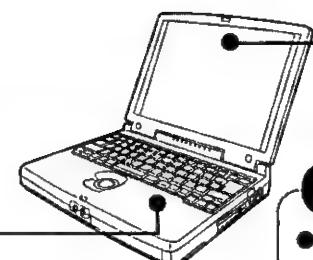
- Do not drop or hit your computer against solid objects.
Do not stand the computer on its side or allow it to tip over. When the computer receives extremely strong shock after falling, the hard disk or floppy disk drive, etc., may become inoperable.
- It is a good idea to make backup copies on floppy disks and carry them with you.
- Do not leave a floppy disk in the drive while transporting your computer.
- Do not carry your computer when it is ON.
- Remove all cables before transporting your computer.
- We recommend preparing a fully charged battery (and optional charger, if possible).

- When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
- Do not carry the computer while the display is open, or carry it by gripping the display.
- Do not put anything between the display and keyboard.
- Always carry your computer with you. Never check it with luggage. For use of the computer inside an aircraft, we recommend asking the airlines regarding their policy on this issue.

Maintenance

Areas excluding the display:

Firmly squeeze a soft wet cloth containing water or detergent (for kitchen use) diluted with water and gently wipe the computer. If a detergent other than a detergent for kitchen use is used (e.g., low-alkaline detergent), it may adversely affect the surface (e.g., discoloration).



Display:

Use a soft dry cloth like gauze to lightly wipe the display.

CAUTION

- Do not use benzene or thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially-available cleaners and cosmetics, as they may contain components harmful to the surface.
- Do not directly add or spray water or detergent. If liquid enters the inside of the computer, it may cause it to work improperly or be damaged.

CD-ROM

- Do not allow CDs to become dirty or scratched.
- Do not place or store CD in locations exposed to heat, direct sunlight, humidity or dust.
- Do not write on the surface of the CD with a ball-point pen or other writing instrument, or apply label on the CD.
- Do not drop, bend, or place heavy objects on top of CDs.
- If the CD is brought from a cold into a warm environment, moisture may form on the disc. Wipe this moisture off with a soft, dry, lint-free cloth before using the CD.

- Cleaning the CD using a CD disc cleaner is recommended once every 2 or 3 months.

After wiping the CD with a moist, soft cloth, wipe it with a dry cloth. Always wipe from the center toward the edge.



List of Error Codes

The following is a list of the messages that BIOS can display. Most of them occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured. Following the list are explanations of the messages and remedies for reported problems.

If your system displays one of except the messages marked below with an asterisk (*), write down the message and contact Panasonic Technical Support. If your system fails after you make changes in the Setup menus, reset the computer, enter Setup and install Setup defaults or correct the error.

0200 Failure Fixed Disk

Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.

0210 Stuck key

Stuck key on keyboard.

0211 Keyboard error

Keyboard not working.

0212 Keyboard Controller Failed

Keyboard controller failed test. May require replacing keyboard controller.

0213 Keyboard locked - Unlock key switch

Unlock the system to proceed.

0230 Shadow RAM Failed at offset : nnnn

Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.

0231 System RAM Failed at offset : nnnn

System RAM failed at offset *nnnn* of in the 64K block at which the error was detected.

0232 Extended RAM Failed at offset : nnnn

Extended memory not working or not configured properly at offset *nnnn*.

0250 System battery is dead - Replace and run SETUP

The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

***0251 System CMOS checksum bad - Default configuration used**

System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default SETUP Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery or contact Panasonic Technical Support.

0260 System timer error

The timer test failed. Requires repair of system board.

0270 Real time clock error

Real-time clock fails BIOS test. May require board repair.

***0280 Previous boot incomplete - Default configuration used**

Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of **wait states**, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.

0281 Memory Size found by POST differed from CMOS

Memory size found by POST differed from CMOS.

02B0 Diskette drive A error

02B1 Diskette drive B error

Drive A: or B: is present but fails the BIOS POST diskette tests. Check to see that the drive is defined with the proper diskette type in Setup and that the diskette drive is attached correctly.

02B2 Incorrect Drive A type - run SETUP

Type of floppy drive A: not correctly identified in Setup.

02B3 Incorrect Drive B type - run SETUP

Type of floppy drive B: not correctly identified in Setup.

02D0 System cache error - Cache disabled

RAM cache failed and BIOS disabled the cache. On older boards, check the cache jumpers. You may have to replace the cache. See Panasonic Technical Support. A disabled cache slows system performance considerably.

02F0: CPU ID:

CPU socket number for Multi-Processor error.

02F4: EISA CMOS not writable

ServerBIOS2 test error: Cannot write to EISA CMOS.

List of Error Codes

02F5: DMA Test Failed

ServerBIOS2 test error: Cannot write to extended DMA (Direct Memory Access) registers.

02F6: Software NMI Failed

ServerBIOS2 test error: Cannot generate software NMI (Non-Maskable Interrupt).

02F7: Fail - Safe Timer NMI Failed

ServerBIOS2 test error: Fail-Safe Timer takes too long.

device address Conflict

Address conflict for specified *device*.

Allocation Error for: *device*

Run ISA or EISA Configuration Utility to resolve resource conflict for the specified *device*.

CD ROM Drive

CD-ROM Drive identified.

Entering SETUP ...

Starting Setup Utility.

Failing Bits : *nnnn*

The hex number *nnnn* is a map of the bits at the RAM address, which failed the memory test. Each 1 (one) in the map indicates a failed bit. See error 230,231 or 232 for offset address of the failure in System, Extended or Shadow memory.

Fixed Disk *n*

Fixed disk *n* (0-3) identified.

Invalid System Configuration Data

Problem with NVRAM (CMOS) data.

I/O device IRQ conflict

I/O device IRQ conflict error.

PS/2 Mouse Boot Summary Screen:

PS/2 Mouse installed.

nnnn kB Extended RAM Passed

Where *nnnn* is the amount of RAM in kilobytes successfully tested.

nnnn Cache SRAM Passed

Where *nnnn* is the amount of system cache in kilobytes successfully tested.

nnnn kB Shadow RAM Passed

Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.

nnnn kB System RAM Passed

Where *nnnn* is the amount of system RAM in kilobytes successfully tested.

Operating System not found

Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 *nnnn*

Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ?????. Parity is a method for checking errors in binary data. A parity error indicates that some data has been corrupted.

Parity Check 2 *nnnn*

Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.

Press <F1> to resume, <F2> to Setup, <F3> for previous

Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Press <F3> to display the previous screen (usually an initialization error of an **Option ROM**, i.e., an add-on card). Write down and follow the information shown on the screen.

Press <F2> to enter Setup

Optional message displayed during POST. Can be turned off in Setup.

PS/2 Mouse:

PS/2 mouse identified.

System BIOS shadowed

System BIOS copied to shadow RAM.

UMB upper limit segment address : *nnnn*

Displays the address *nnnn* of the upper limit of **Upper Memory Blocks**, indicating released segments of the BIOS which can be reclaimed by a virtual memory manager.

Video BIOS shadowed

Video BIOS successfully copied to shadow RAM.

Dealing with Problems

When a problem occurs, refer to this page. The "Reference Manual" also contains detailed information. If a problem appears to be related to a software application, read the software related manual. If you still cannot troubleshoot the problem, contact Panasonic Technical Support.

● Starting Up

The power indicator or battery indicator is not lit	<ul style="list-style-type: none">Check the cable connection for the AC adapter.Check to see if a fully charged battery is properly installed.Remove the battery pack and disconnect the AC adapter, then connect them again.
 or  is displayed	Input your password. If you have forgotten it, contact Panasonic Technical Support.
[POST Startup Error(s)] is displayed	(<small>Reference Manual</small> page 21)
Windows startup, or an operation is extremely slow	Press F9 in the Setup Utility (<small>Reference Manual</small> "Setup Utility"). This will restore the Setup Utility's settings to their default values (except the password settings). Then, the Setup Utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)
The date and time are incorrect	<ul style="list-style-type: none">You can set the date and time through [Date/Time] in [Start] - [Settings] - [Control Panel]. If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact Panasonic Technical Support.Windows NT<ul style="list-style-type: none">When [APM 2.0 for NT] is not displayed in [Control Panel], this indicates that Phoenix APM 2.0 for Windows NT® is not installed. When the suspend or hibernation function is used under this condition, the date and time may be incorrectly displayed. Correct the date and time, and then install Phoenix APM 2.0 for Windows NT®. When the suspend or hibernation function is used frequently, discrepancies may occur in the display of the date and time even if APM 2.0 for Windows NT is installed. You can set the date and time through [Date/Time] in [Start] - [Settings] - [Control Panel].
Others	<ul style="list-style-type: none">Press F9 in the Setup Utility (<small>Reference Manual</small> "Setup Utility"). This will restore the Setup Utility's settings to their default values (except the password settings).Try removing all peripheral devices. <p>Windows 95/98</p> <ul style="list-style-type: none">In the MS-DOS mode, run SCANDISK to check the hard disk.At start-up, press F8 (Windows 98 Ctrl) to operate the computer in the Safe mode.

● Battery Indicator

The red battery indicator lights. Repeated beeping sound while the computer is in use.	The battery level is low. Save your data and power off your computer. After connecting the AC adapter or replacing the battery pack with a fully charged one, turn your computer on.
The red indicator blinks	<ul style="list-style-type: none">The battery pack or recharging function may be defective. Quickly remove the battery pack and disconnect the AC adapter, then connect them again.If the problem persists, contact Panasonic Technical Support.
After the AC adapter is connected, the orange indicator blinks five times	Unable to charge because of an improper temperature range. (<small>Reference Manual</small> page 5)

Dealing with Problems

● Display

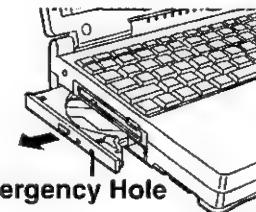
No display after powering on	<ul style="list-style-type: none">At the time of purchase, the display setting is preset for an external display. If you connect an external display, the screen is displayed on the external display.When there is no display to an external display.<ul style="list-style-type: none">Check your cable connection to the external display.Confirm your display is powered on.Check the settings for your external display.Try changing the display by pressing (Fn) + (F3).When displaying only through an external display, if the computer is shut down by using the suspend or hibernation function, there will be no display on the LCD unless the external display is connected when operations are resumed. In this case, connect the external display.
The power has not been cut, but after a certain period of time, there is no display	<ul style="list-style-type: none">Has the computer been set to the power-saving mode? To resume operation of your computer from ECO mode, press any key (like (Ctrl)).To save power, your computer may have automatically entered the suspend (or hibernation*) mode. (☞ <small>Reference Manual</small> "Computing On the Road")The Coffee Break Password may have been set. In such cases, perform the following steps.<ol style="list-style-type: none">1 Press any key.2 If the display remains dark, enter the Coffee Break Password and press (Enter).3 If the display continues to remain dark, press (Enter) again.
The resolution of the display cannot be changed	Set [None] for [Wallpaper] in [Start] - [Settings] - [Control Panel] - [Display] - [Background], and then press [OK]. Then, once again try changing the resolution. After the change, be sure to restart the computer.
An afterimage appears (i.e., green, red, and blue dots remain on the display) or there are dots not displaying the correct colors.	If an image is displayed for a prolonged period of time, an afterimage may appear. This is not a malfunction. The afterimage will disappear when a different screen is displayed. High-precision and advanced technologies are necessary in the production of color liquid crystal displays (color LCDs). Therefore, if 0.002% or less of the picture elements either fail to light or remain constantly lit (that is, more than 99.998% of elements are functioning properly), no defect is considered to exist.
Windows 95-98 The motion of the mouse cursor is not smooth	Select [Start] - [Settings] - [Control Panel] - [Mouse] - [Motion] and add the check mark <input checked="" type="checkbox"/> for [Show trails].
During simultaneous display, the screen of the external display becomes disordered	Try changing the display by pressing (Fn) + (F3) . (☞ Windows 98 The combination does not work when the computer is in the Dual-Display Mode.)

* Windows 95 and NT only

● Application Software

Computer hangs	<ul style="list-style-type: none">Press (Ctrl) + (Alt) + (Del) to reboot the computer.After powering down by pressing the power switch for more than four seconds, slide the power switch to power on and open the application again. If the program no longer works normally, go to [Start] - [Settings] - [Control Panel] - [Add/Remove Programs] to delete the program. Then, try installing the program once again.
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● Disk Operations

Cannot read/write to a floppy disk	<ul style="list-style-type: none"> Has the floppy disk been correctly inserted? Has the floppy disk been correctly formatted? Has the Setup Utility been used to set [Floppy Operation] to [Enable]? (Refer to "Setup Utility" in the Reference Manual) Your floppy disk content may be corrupted.
Unable to write to a floppy disk	Is the floppy disk write-protected?
How to format a floppy disk is unclear	Select [Format] in [My Computer] - [3 1/2 Floppy (A:)] - [File]. After confirming the disk volume and format type, start formatting.
Unable to read/write to the hard disk	<ul style="list-style-type: none"> Your drive or file may not have been properly set. Check to see if the hard disk is full. If it is full, delete unnecessary files. Your hard disk content may be corrupted. Contact Panasonic Technical Support.
Trouble has occurred with the CD	You may need to clean the lens or CD; refer to (page 18) on how to do so.
When the previous item is not the cause	Try testing another drive or media.
The access lamp (②) does not light	Is the CD loaded on the tray correctly?
Cannot play CD or read data from it	Is the CD bent, scratched, or dirty?
Cannot eject CD	<p>Is the computer powered on?</p> <p>To remove a CD when the computer is powered off, insert a sharp object such as the bent-out tip of a paper clip into the emergency hole. Pushing it completely to the end will free the tray so that it can be pulled out.</p> 
A blue background appears on the screen with the MPEG image	Did you open the CD-ROM drive or remove the MPEG CD while it was operating? Re-insert the MPEG CD and close the CD-ROM drive. Press Enter .
The CD-ROM drive vibrates a lot	Is the CD bent or labeled?
Windows 95-98 No sound from music CDs	In [Control Panel] - [Power] - [DS-XG Power], select [Full power level].

● Key Operation

If you change the video output destination by pressing Fn + F3 under the condition the full DOS screen is open (in [Start]-[Programs]-[MS-DOS Prompt]), when you close the MS-DOS screen by typing "Exit", the computer will return to the output destination existing at the time you entered the MS-DOS mode	<p>Press Fn + F3 again.</p> <p>(Windows 98 The combination does not work when the computer is in the Dual-Display Mode.)</p>
--	---

Reinstalling Software

Before Reinstallation

● Preparing

You will need the Product Recovery CD-ROM and the FIRSTAID FD you made earlier.

NOTE

If you have not created the FIRSTAID FD, you can create by selecting [Create BACKUP DISK] in [Start] - [Programs] - [Panasonic]. If you can not create this disk, contact Panasonic Technical Support.

● Important

- Save all important data. If reinstallation is carried out, all data existing prior to the installation will be lost. The reinstallation will return the computer to close to the conditions at time of purchase.
- Before the reinstallation procedure, remove all peripherals.
- Be sure the AC adapter is connected until the reinstallation procedure is completed.

Reinstalling

CAUTION

If data on your hard disk is compressed, the data should be uncompressed.

- 1 Turn the computer on.
- 2 When the message [Press <F2> to enter SETUP] is displayed, press **F2** and then run the Setup Utility. If the password has been set, enter the supervisor password.
- 3 Press **F9**.
At the confirmation message, select [Yes] and press **Enter**.
- 4 Select [Security] menu and set [Boot Up Drive] to [CDD/A:/C:].
- 5 Set the Product Recovery CD-ROM and FIRSTAID FD.
- 6 Press **F10**.
At the confirmation message, select [Yes] and press **Enter**. The computer will reboot, and this screen should appear.

Windows 95/98

Select the number

1. Restore the whole HDD to factory default
2. Restore the drive C to factory default
3. End

Windows NT

Select the number

1. Restore the whole HDD to factory default
2. End

- 7 Make a selection from the menu.

To restore all contents of the hard disk to factory default, including the partition setting(s):

Select [1. Restore the whole HDD to factory default].

Windows 95/98

To restore the hard disk (C drive) to factory default, excluding the partition setting(s):

Select [2. Restore the drive C to factory default].

- 8 At the confirmation message, press **Y**.
The operations of "format" and "restore" for the hard disk start automatically. (The operations take about one hour.)
- 9 After the reinstallation procedure completes, the following message will appear on the display.

All data on the whole HDD has been restored to the factory default.
After removing floppy disk and the Product Recovery CD-ROM, restart the computer and set up Windows again.

- 10 Remove the floppy disk and CD-ROM.
- 11 Restart the computer by pressing **Ctrl** + **Alt** + **Del**, and perform the setup procedure for Windows by following the instructions on the screen. **☞** page 9,10,11

NOTE

During the reinstallation procedure, the following Setup Utility entries are changed:

When necessary, change these settings accordingly.

Power Menu	Power Management :Disable
Power Switch	Off

When necessary, set [Boot Up Drive] to [A:/C:] in the Setup Utility.

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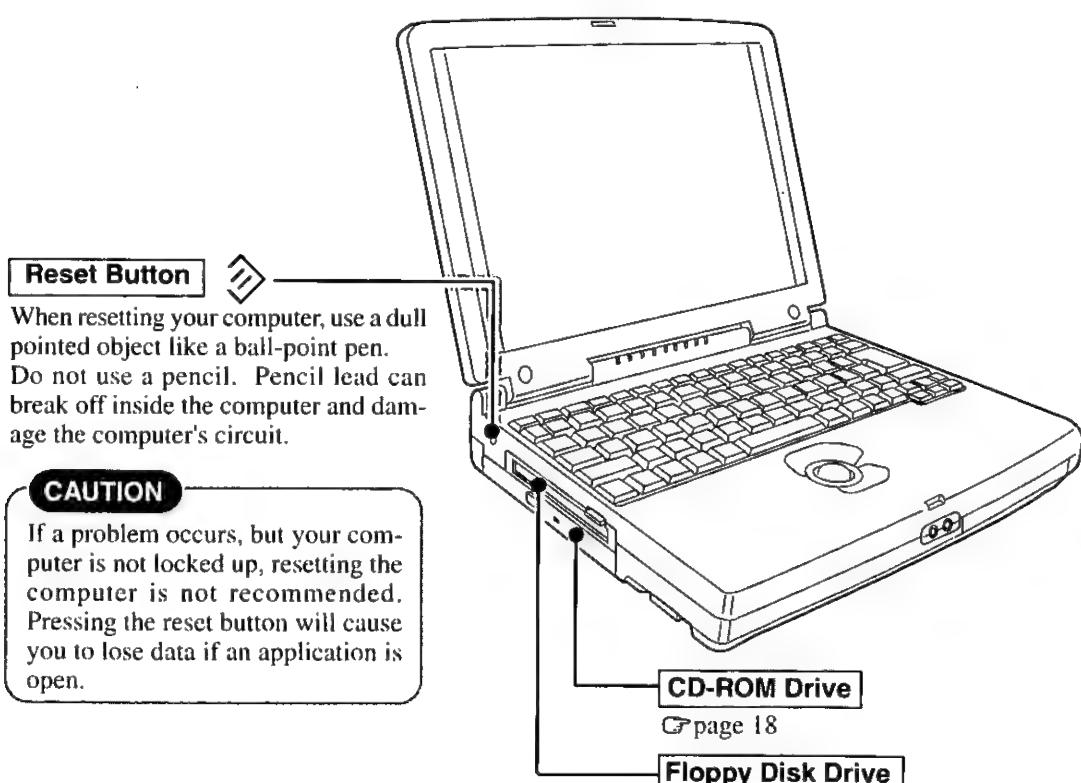
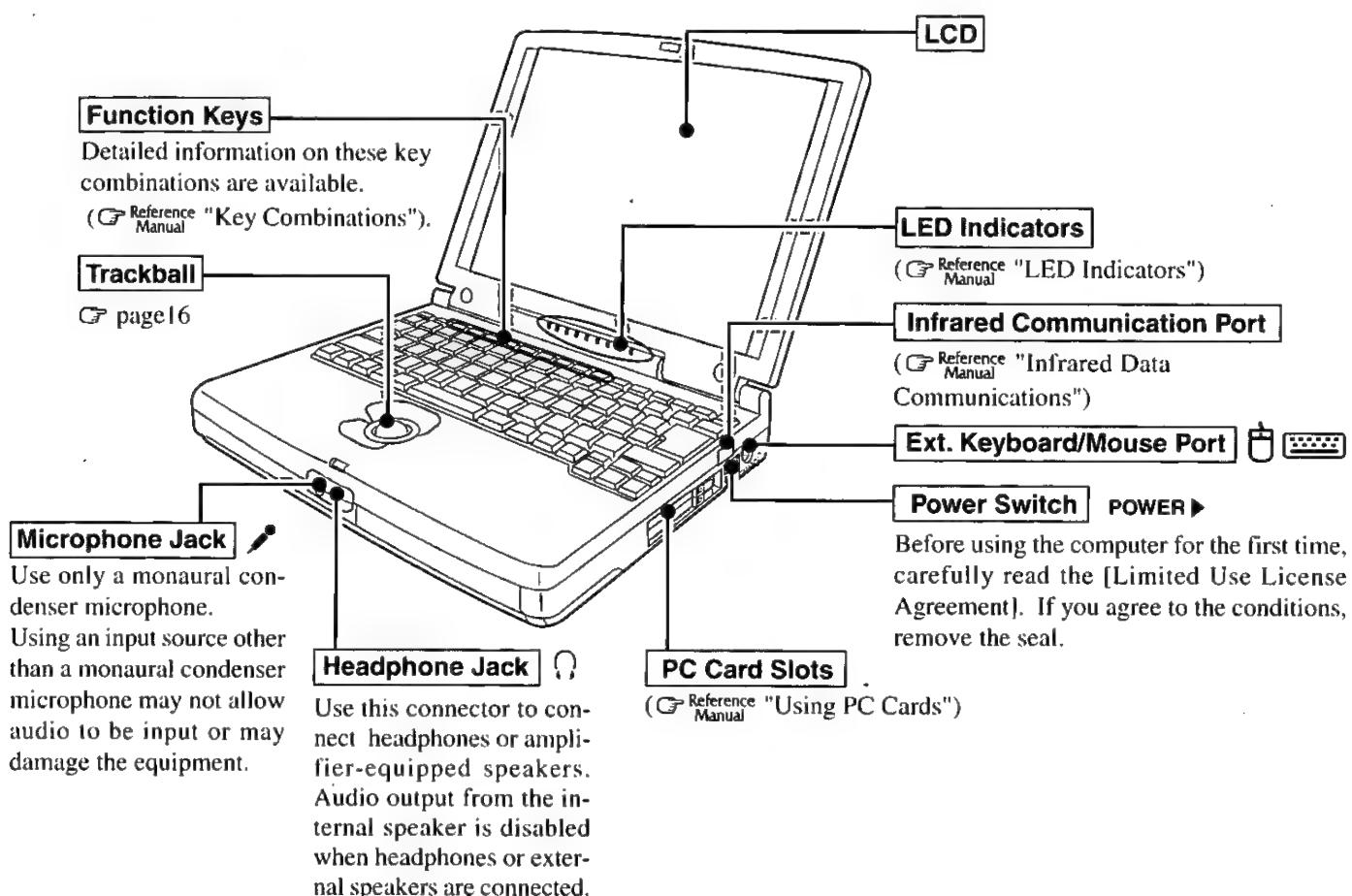
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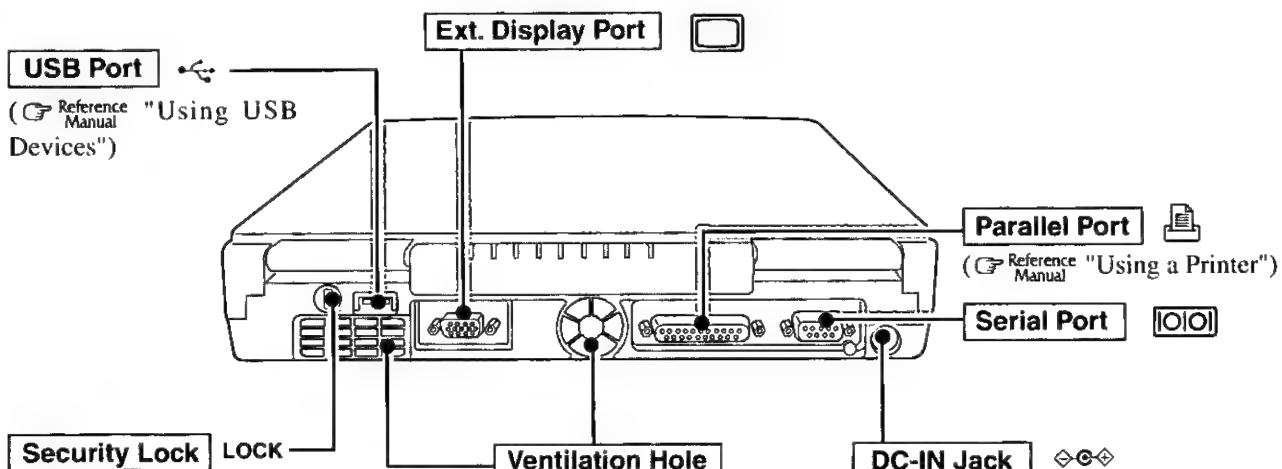
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Names and Functions of Parts



Names and Functions of Parts



Security Lock **LOCK**

A Kensington cable can be connected to prevent theft of your computer. For more information, read the manual provided with the cable.

CAUTION

Do not block or place the computer in a location that may prevent proper ventilation.

CAUTION

This cover is not to be opened by anyone except authorized service personnel.

RAM Module Slot

(Reference Manual "Adding Memory")

Ventilation Hole

Expansion Bus Connector

(Reference Manual "Port Replicator")

Hard Disk Drive

Battery Pack

(Reference Manual "Battery Power")

Speaker

- To adjust the volume*, select the  on the task bar, then [Volume Control].

* You may also use the function keys to perform this operation

(**Fn** + **F5** or **F6**).

- Speaker on/off : **Fn** + **F4**

Specifications

This page provides the specifications for the basic model CF-45KJ6GJEM. The model names differ depending on the specifications of the CPU, memory size, hard disk, and operating system. The specifications of the computer can be checked as follows.

Model Name:

Check the bottom of the computer or the box the computer came in at the time of purchase.

CPU or Memory:

Use DMI Viewer to check these specifications (Select [Start] - [Programs] - [Panasonic] - [DMI Viewer]).

Hard Disk Drive (HDD):

Access the HDD's "Properties" to check its capacity.

- 1 Double click [My Computer].
- 2 Select the [C:] drive, and then click the front track ball (right mouse) button.
- 3 Select [Properties].

● Main Specifications

Model No.	CF-45KJ6GJEM
CPU	Intel® Mobile Pentium® III Processor 450 MHz L1 Cache Memory: 32 KB L2 (Second) Cache Memory: 256 KB
Memory (Expandable to)	64 MB (192 MB Max.)
Video Memory	2 MB
LCD	Type 12.1 Type
	Displayed Colors*1 256/65536/262144 colors (640 x 480 dots/800 x 600 dots)
Hard Disk Drive	6 GB*2
Operating System	Microsoft® Windows® 98 (FAT32 File System)

*1 A 16 M color display is achieved by using the dithering function.

*2 1GB = 10^9 bytes

Specifications

● Other Specifications

Keyboard	87 keys				
Floppy Disk Drive	720 KB/1.44 MB (two-mode)				
CD-ROM Drive	24X speed (MAX)				
Slots	PC Card Slots	Two Type I or Type II, or one Type III			
		Allowable current (total for two slots)	3.3 V: 400 mA, 5 V: 400 mA, 12 V: 120 mA		
	RAM Module Slot	144-pin, 3.3-V, SO-DIMM, SDRAM, PC100 Compliant			
Interface	Parallel Port	Dsub 25-pin female			
	External Display Port	Mini Dsub 15-pin female			
	Serial Port	Dsub 9-pin male			
	Microphone Jack*1	Miniature jack, 3.5 DIA			
	Headphone Jack	Miniature jack, 3.5 DIA Impedance 32 Ω, Output Power 4 mW (Impedance 32 Ω) x 2			
	Infrared Communication Port	IrDA 1.1 compliant, 4 Mbps data transmission speed*2			
	External Keyboard/Mouse Port	Mini DIN 6-pin female			
	Expansion Bus Connector	Dedicated 100-pin female			
	USB Connector	4-pin			
Pointing Device	Optical Trackball (Φ19)				
Speaker	Mono Speaker (built in)				
Sound	PC'98 specification Compliant, Maximum 64-voice XG capital Wavetable, Synthesizer including GM compatibility, Sound Blaster Pro Compatibility				
Battery	Battery Pack	Li-ion 10.8 V, 2.3 Ah			
		Operating Time	Approx. 1.0 - 3.0 hours*3		
		Charging Time	Power On		
			Approx. 3.5 hours*3		
	Clock Battery	Power Off Approx. 2.0 hours*3			
AC Adapter*4	Input	100 V-240 V AC, 50 Hz / 60 Hz	Output	15.6 V DC, 3.85 A	
Power Consumption	Approx. 55 W*5 (maximum when recharging in the ON state)				
Environment	In use	Temperature Humidity	5 °C to 35 °C (41 °F to 95 °F) 30% to 80% RH (No condensation)		
	Not in use	Temperature Humidity	-20 °C to 60 °C (-4 °F to 140 °F) 30% to 90% RH (No condensation)		
Physical Dimensions (W x H x D)	297 mm X 50.7mm X 230 mm {11.7 " X1.9 " X 9.1 "}				
Weight	Approx. 2.9 kg (Approx. 6.4 lb.)				

*1 Use only a monaural condenser microphone.

*2 Separate communications software is necessary.

*3 Varies depending on the usage conditions.

*4 The AC adapter is compatible with power sources up to 240 V AC adapter.

This computer is supplied with a 125 V AC compatible AC cord.

*5 Approx. 1.5 W when the battery pack is fully charged (or not being charged) and the computer is OFF.

<MEMO>

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This Limited Warranty will be governed by the laws of the State of New York, without regard to its conflict-of-laws rules.

* * *

To obtain service or technical assistance within the continental U.S.A. and Alaska.

DIAL TOLL FREE: 1-800-LAPTOP5

Correspondence requesting product information should be sent
to: Panasonic Personal Computer Company,
50 Meadowlands Parkway, Panazip 2F-5, Secaucus, NJ 07094

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Scope of Coverage	Period of Coverage	Type of Failure Coverage
Whole Product (except Batteries), AC Adapter, CD-ROM (if factory installed), Port Replicator, Extra Memory Modules and all other Options and Accessories	Three (3) Years from Date of Original End User Customer Purchase	Defective Materials or Workmanship
Batteries, CD-ROM (unless factory installed), Port Replicator, Extra Memory Modules and all other Peripherals, Options and Accessories	One (1) Year from Date of Original End User Customer Purchase	Defective Materials or Workmanship

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Ontario L4W 2T3

